

Application No. 09/588,462  
Amendment filed April 29, 2004  
Reply to Office Action dated January 29, 2004

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Remarks

Claims 1-16 are pending, with claims 1 and 10 being in independent form. By the present amendment, claims 1, 3-5, 10, and 12-14 have been amended and claims 2 and 11 have been canceled without prejudice or disclaimer.

In the Office Action, claims 1, 8, and 10 stand rejected for anticipation by U.S. Patent No. 4,891,837 to Walker et al ("Walker '837") and claims 1-8 and 10-16 stand rejected for anticipation by U.S. Patent No. 5,570,423 to Walker et al ("Walker '423"). Claim 9 has been rejected for obviousness over Walker '423 in view of previously cited Romesburg.

Claim 1 defines a loudspeaker volume range control arrangement for a telephone having a loudspeaker, a microphone, and an echo cancellation system including an adaptive filter arrangement. The arrangement includes means for controlling a volume range of the loudspeaker in dependence on an estimated distance between the loudspeaker and the microphone, the distance being estimated based on adaptive filter arrangement coefficients derived from signals of the loudspeaker and microphone.

To support a rejection under 35 U.S.C. § 102, each and every feature of the claimed invention must be shown in a single prior art document. Moreover, to establish a prima facie case of obviousness, the cited documents must teach or suggest all of the claim limitations. As discussed below, claims 1-16 positively recite limitations that are neither disclosed, nor suggested in the cited documents and are therefore not anticipated by, nor obvious in view of the cited document(s).

The Examiner contends that Walker '423 discloses estimating the distance between the microphone and the loudspeaker based on adaptive filter arrangement coefficients (see page 3 of Action), citing column 4, line 44 to column 5, line 17.

Applicants disagree.

The cited passage instead discloses that the distance between the loudspeaker and the microphone is used when calculating the filter coefficients, rather than using the filter coefficients to estimate this distance as defined in amended claim 1. That is, in Walker '423 the distance used must be known in order to calculate the coefficients. This is evident from Equation 1, which requires knowledge of  $t_{ak}$  (see col. 5, II. 1-17) to determine the filter coefficients. The distance

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$d_{ak}$  in Walker '423 represents the distance between the loudspeaker and microphone, and simply corresponds to the minimum acoustic signal propagation time  $t_{ak}$  (see col. 4, ll. 47-52). Accordingly, the distance between the loudspeaker and microphone is an input parameter for the algorithm used to calculate the filter coefficients according to Equation 1 of Walker '423.

Therefore, in Walker '423, the distance between the loudspeaker and the microphone is **not** estimated based on adaptive filter arrangement coefficients derived from signals of the loudspeaker and microphone, as defined in claim 1. In fact, just the opposite is true. One must know the distance/propagation time in order to calculate the coefficients in the first place in Walker '423.

As substantially admitted in the Action, Walker '837 does not disclose this feature.

Amended independent claim 10 includes analogous distinguishing features. Accordingly, since the cited document(s) fail to disclose (or suggest) all of the claim limitations for at least the above reasons, both the anticipation rejection of claims 1-8 and 10-15, and the obviousness rejections of claim 9, should be withdrawn.

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For the foregoing reasons, Applicants consider the application to be in condition for allowance and respectfully request notice thereof at an early date. The Examiner is encouraged to telephone the undersigned at the below-listed number if, in the Examiner's opinion, such a call would aid in the examination of this application.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

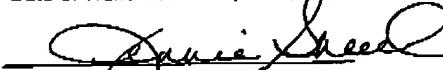
  
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